CLAIMS

1.   A method of encoding Karaoke applications comprising:
        encoding a background video signal for use with one or more Karaoke songs;
5   encoding one or more Karaoke songs;
        encoding Karaoke song texts associated with said one or more songs, to be displayed in a karaoke text display; and
        encoding visual contents for display outside the Karaoke text display during playing of said one or more Karaoke songs, as private section data.
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2.   A method according to claim 1, wherein said visual contents are encoded for display at least during non-singing periods of said songs.

3.   A method according to claim 2, wherein said visual contents are encoded for
15   display over area in which the song text display is displayed during said non-singing periods.

4.   A method according to any one of the preceding claims, wherein said visual contents are encoded for display over an area outside the area in which the song
20   text display is displayed at any time or throughout a song.

5.   A method according to any one of the preceding claims, wherein the Karaoke song texts are encoded as pre-defined text code.

25 6. A method according to any one of the preceding claims, wherein said song texts are encoded into said private section data.

7.   A method according to any one of the preceding claims, wherein scrolling information associated with said songs are encoded with said song texts.
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8.   A method according to claim 7, wherein display interval information and said scrolling information for singing tempo are encoded as time codes.

9.   A method according to any one of the preceding claims, wherein said song
35   texts are encoded in a song text display.

10.   A method according to any one of the preceding claims, wherein said visual contents are relevant to said songs.

5   11.   A method according to any one of the preceding claims, wherein said visual contents comprise textual contents.

12.   A method according to any one of the preceding claims, wherein said visual contents comprise programme guide information.

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13.   A method according to any one of the preceding claims, wherein said visual contents comprise interactive contents.

14.   A method according to claim 13, further comprising:

15   defining nodal descriptions for said interactive contents for generating visual displays arranged in menu tree structures; and

specifying actions that can be activated by the user by said displayed interactive contents.

20   15.   A method according to any one of the preceding claims, further comprising defining text-base descriptions of said visual contents and integrating said text-base descriptions into said private section data.

16.   A method according to claim 15, further comprising specifying display

25   attributes of said text-base descriptions and integrating said display attributes into said private section data.

17.   A method according to claim 15 or 16, further comprising specifying the time intervals for display of said text-base descriptions and integrating said time

30   intervals into said private section data.

18.   A method according to claim 15 or 16, further comprising specifying the sequence and timing for display of said text-base description and integrating said sequence and timing for display into said private section data.

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19.   A method according to any one of the preceding claims, wherein the step of encoding visual contents further comprises specifying display positions of said visual contents and integrating said display positions into said private section data.

20.   A method according to any one of the preceding claims, wherein the step of encoding visual contents further comprises setting an edit status, which determines whether the visual contents may be edited.

21.   A method according to claim 20, wherein the edit status is set by a first status of user and is applicable to a second status of user.

22.   A method according to claim 20 or 21, wherein the edit status is set with a flag.

23.   A method according to any one of the preceding claims, wherein the step of encoding visual contents further comprises setting a display status, which determines whether some or all of the visual contents can be prevented from being displayed during playback.

24.   A method according to claim 23, wherein the display status is set with a flag.

25.   A method according to any one of the preceding claims, wherein the step of encoding visual contents further comprises setting a distribution status, which determines whether the encoded application or at least part thereof is for licensed distribution.

26.   A method according to claim 25, wherein the distribution status is set with a flag.

27.   A method according to claims 22, 24 and 26, wherein the edit status, display status and distribution status are set by the same flag.

28.   A method according to any one of the preceding claims, further comprising the step of storing the encoded visual contents.

29. A method according to claim 28 when dependent on at least claim 21, further comprising the steps of:

retrieving stored encoded visual contents;

editing the retrieved visual contents if allowed by the edit status; and

encoding the edited visual contents as private section data;

wherein at least the editing step is conducted by a user of said second status.

30. A method according to any one of the preceding claims, wherein said background video signal is encoded to form a video elementary stream and said one or more Karaoke songs are encoded to form audio elementary streams.

31. A method according to claim 30, further comprising multiplexing said video elementary stream, said audio elementary streams and said private section data in a transport stream for broadcast.

32. A method according to any one of the preceding claims, further comprising the step of broadcasting said encoded applications.

33. A method according to claim 32, when the broadcasting step comprises broadcasting the encoded applications as a television signal.

34. A method of providing audio and video Karaoke signals comprising the steps of:

receiving Karaoke applications encoded according to any one of the preceding claims;

decoding said encoded background video signal;

decoding said encoded one or more Karaoke songs to provide an audio signal;

decoding the encoded one or more Karaoke song texts associated with the one or more decoded songs;

decoding the encoded visual contents; and

combining said background video signal, said one or more Karaoke song texts and said visual contents to form a video signal, with the one or more Karaoke

song texts in a karaoke text display and said visual contents outside the karaoke text display during some or all of the one or more songs.

35.   Apparatus for supplying Karaoke applications comprising:

        video encoding means for encoding a background video signal for use with multiple Karaoke songs;

        song encoding means for encoding Karaoke songs;

        text encoding means for encoding Karaoke song texts associated with said songs, for display in a karaoke text display; and

        visual contents encoding means for encoding visual contents for display outside the Karaoke text display during playing of said Karaoke songs, as private section data.

36.   Apparatus according to claim 35, wherein said text encoding means is further operable to encode scrolling information associated with said songs with said text displays.

37.   Apparatus according to claim 35 or 36, wherein said text encoding means is operable to encode said song texts into said private section data.

38.   Apparatus according to any one of claims 35 to 37, wherein said visual contents comprise textual content.

39.   Apparatus according to any one of claims 35 to 38, wherein said visual contents comprise interactive contents.

40.   Apparatus according to claim 39, further comprising nodal description defining means for defining nodal descriptions for said interactive contents for generating visual displays arranged in menu tree structures.

41.   Apparatus according to any one of claims 35 to 40, further comprising edit status setting means for setting an edit status, which determines whether the visual contents may be edited.

42.   Apparatus according to claim 41, wherein the edit status setting means is operable by a first status of user for setting an edit status applicable to a second status of user.

5   43.   Apparatus according to claim 41 or 42, wherein the edit status is set with a flag.

44.   Apparatus according to any one of claims 35 to 43, further comprising display status setting means for setting a display status, which determines whether some
10   or all of the visual contents can be prevented from being displayed during playback.

45.   Apparatus according to claim 44, wherein the display status is set with a flag.

15 46.   Apparatus according to any one of claims 35 to 45, further comprising distribution status setting means for setting a distribution status, which determines whether the encoded application or at least part thereof is for licensed distribution.

47.   Apparatus according to claim 46, wherein the distribution status is set with a
20   flag.

48.   Apparatus according to claims 43, 45 and 47, wherein the edit status, display status and distribution status are set by the same flag.

25 49.   Apparatus according to any one of claims 35 to 48, further comprising storing means for storing the encoded visual contents.

50.   Apparatus according to claim 49 when dependent on at least claim 42, further comprising editing means for use by a user of said second status, for retrieving
30   stored encoded visual contents, editing the retrieved visual contents if allowed by the edit status, and encoding the edited visual contents as private section data.

51.   Apparatus according to any one of claims 35 to 50, further comprising multiplexing means for multiplexing the encoded background video signal, the

encoded karaoke songs, the encoded karaoke song texts and the encoded visual contents into a transport stream for broadcast.

52.   Apparatus according to any one of claims 35 to 51, operable according to the method of any one of claims 1 to 32.

53.   Apparatus for providing audio and video Karaoke signals comprising:

receiving means for receiving Karaoke applications encoded according to the method of any one of claims 1 to 33 or encoded by the apparatus of any one of claims 35 to 52;

video decoding means for decoding the encoded background video signal;

song decoding means for decoding the encoded Karaoke songs to provide an audio signal;

text decoding means for decoding encoded Karaoke song texts associated with said decoded songs;

visual content decoding means for decoding the encoded visual contents; and

combining means for combining said background video signal, said one or more song texts and said visual contents to form a video signal such that the song texts are displayed in a karaoke text display and said visual contents are displayed in a region outside the karaoke text display during some or all of the one or more songs.

54.   Apparatus for use in editing visual contents for display during Karaoke singing sessions, said apparatus comprising:

means for retrieving a stored karaoke text elementary stream;

means for determining an edit permission status within the retrieved karaoke text elementary stream;

means for editing said visual contents if permitted by the edit permission status to provide new visual content;

means for forwarding the edited visual contents for storage; and

means for setting the edit permission status of the newly provided visual content.

55.   A method of encoding Karaoke applications or the like, comprising: encoding a background video signal for use with one or more Karaoke songs; encoding texts to be displayed in a karaoke text display; and encoding visual contents for display outside the Karaoke text display, as private section data.